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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,945	08/08/2000	Timothy M. Schmidl	TI-30346	4156
7590	07/23/2004		EXAMINER	
Ronald O Neerings Texas Instruments Incorporated M S 3999 P O Box 655474 Dallas, TX 75265			VOLPER, THOMAS E	
			ART UNIT	PAPER NUMBER
			2665	7
DATE MAILED: 07/23/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/633,945	SCHMIDL ET AL.
Examiner	Art Unit	
Thomas Volper	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 08 May 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-36 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-36 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicants' arguments filed 8 May 2004 have been fully considered but they are not persuasive.

In response to Applicants' arguments regarding the limitations of claims 1, 11, 18 and 26, the Examiner respectfully disagrees. Applicants argue that Wakayama does not disclose any deviation from a frequency hopping pattern and does not disclose transmitting on a single frequency during a period of time instead of on a plurality of frequencies as specified by the frequency hopping pattern. Figure 5 of Wakayama shows a simple frequency hopping pattern. Communication between two devices takes place during the different holding times  $T_a$  and  $T_b$ , wherein the frequency of transmission changes with each holding time (col. 9, lines 35-58). Wakayama also discloses the ability of a user to change the holding time  $T$  by lengthening the holding time (col. 9, lines 63-65). This meets the limitation of deviating from a frequency hopping pattern. Also, during an extended holding time period, the frequency is being held constant, which meets the limitation of transmitting on a single frequency rather than switching to another frequency according to the frequency hopping pattern. The result of extending the holding time  $T$  is an effective increase in the transfer rate, since the occupied time that ordinarily results from hopping between frequencies is eliminated during the extended holding time. Accordingly, Wakayama does anticipate all of the limitations of the independent claims 1, 11, 18 and 26, thus this action is deemed final.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 7, 9-16, 18, 20-23, 25-31 and 33-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Wakayama (US 6,130,905).

Regarding claims 1, 11, 12, 18, 26 and 27, Wakayama discloses transmitting first data from a first device to a second device using a first transmission rate and frequencies specified by a frequency hopping pattern, and deviating from the frequency hopping pattern, based on a characteristic of second data, for a period of time by transmitting the second data at a frequency selected from the frequency hopping pattern based on a selected criterion and at a second data transmission rate (col. 7, line 46 – col. 10, line 41). Additionally, Wakayama discloses that each communication device comprises a communication unit (50), a control unit (38), and a data controller (62), respectively representing the wireless interface, controller, and input of the present invention (see Figure 3).

Regarding claims 2 and 13, Wakayama discloses that both the first and second device may transmit to each other during a holding time, which represents the period of time of the present invention (see Figure 10).

Regarding claims 3, 15, 23 and 29 Wakayama discloses that the data may be voice data (col. 10, lines 31-41).

Regarding claims 7 and 20, Wakayama discloses that as the holding time increases, the transmission rate increases, since the ratio of time T to time t is greater (col. 9, lines 52-65). Thus, if the transmission rate increases from one frequency hop to another, i.e. the holding time increases, data is being transmitted faster so that additional communication is possible in the same amount of time.

Regarding claims 9, 16, 21, 22, 30 and 31, Wakayama discloses a dial unit (39) for setting the holding time (col. 4, lines 64-65), wherein the transmission rate is implied in the holding time, and a frequency synthesizer (28) for generating frequency-hopping signals according to spread codes supplied by a spread code generator (26) (col. 5, line 66 – col. 6, line 4). These items collectively represent the parameter generator of the present invention. In addition, Wakayama discloses that the holding time is added as a header to the transmission signal to the other device (col. 5, lines 54-57), and a hop data flag is added to the transmission data to provide frequency hope data to the other device (see Figure 10).

Regarding claims 10, 14, 25 and 28 Wakayama discloses that a user can decrease the length of the holding time, effectively decreasing the transmission rate, to provide greater privacy or secrecy (col. 9, line 3 – col. 10, line 2). Amount of privacy is a measure of communication quality, and increased privacy may be desirable for voice data communications (col. 10, line 65 – col. 11, line 3).

Regarding claims 33-36, Wakayama discloses that the communication frequency at a particular hop time may be decided based on a comparison of error rate for that frequency with a reference error rate (col. 16, line 53 – col. 17, line 24).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakayama (US 6,130,905) as applied to claims 1-3, 7, 9-16, 18, 20-23, 25-31 and 33-36 above, and further in view of Phillips et al. (US 5,490,168).

Regarding claims 4-6 and 19, Wakayama fails to expressly disclose using a higher coding rate and longer packet length with the second data transmission rate. Phillips discloses a transceiving unit that can vary between two modes of operation: efficient long packet mode and robust short packet mode (see Figures 1 and 2). The transceiver can change modes from one transmission to the next wherein the transceiver transitions to a greater coding rate and greater packet length (col. 5, line 43 – col. 6, line 13). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide these two modes of operation in the frequency hopping system of Wakayama wherein a communication device in the invention of Wakayama could switch between an efficient packet mode and a robust packet mode from one frequency hop to

the next. One of ordinary skill in the art would have been motivated to do this to adjust for changing error conditions on the wireless communication path.

6. Claims 8, 17, 24 and 32, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakayama (US 6,130,905) as applied to claims 1-3, 7, 9-16, 18, 20-23, 25-31 and 33-36 above, and further in view of Haartsen (US 6,650,630).

Regarding claims 8, 17, 24 and 32, Wakayama fails to expressly disclose that the two devices are master and slave Bluetooth devices. Haartsen discloses a wireless frequency hopping communication system that may operate like a Bluetooth system, in which one transceiver is a master unit in a communication session with another unit (col. 11, lines 41-51), therefore making the other unit a slave unit. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the invention of Wakayama in a Bluetooth system. One of ordinary skill in the art would have been motivated to do this since Bluetooth uses a frequency-hopping concept.

### *Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Thomas E. Volper



July 14, 2004



HUY D. VU  
SUPERVISORY PATENT EXAMINER  
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